

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**I CLAIM**

1. (Currently Amended) A method for determining defects in recorded wafer images by the steps, which comprise :

(i) recording an image of at least one reference wafer,

(ii) determining and representing on a user interface a radial distribution of values measured on the at least one reference wafer as a radial homogeneity function, the homogeneity function determined from respective minimum values measured at respective distances from the a center point of the reference wafer, and

(iii) changing a radially dependent sensitivity profile while taking into account the radial homogeneity function of the at least one reference wafer by varying at least one parameter of the sensitivity profile, a learned sensitivity profile being determined visually by comparison with the radial homogeneity function.

2. (Previously Presented) The method as defined in claim 1, wherein the determination of defects in said recorded wafer images is carried out on at least one other wafer by comparison between the learned sensitivity profile of the at least one reference wafer with the measured radial distribution of the homogeneity function of the at least one other wafer, a defect being determined from the comparison of the measured radial distribution of the homogeneity function with the learned sensitivity profile.

3. (Previously Presented) The method as defined in claim 2, wherein the defect is determined by measuring the radial distribution of the homogeneity function falling below the learned sensitivity profile and marking a graphic representation of the at least one other wafer.

4. (Currently Amended) The method as defined in claim 1, wherein the learned sensitivity profile depends on ~~the a~~ radial distance from a center point of the wafer.
5. (Currently Amended) The method as defined in claim 1, wherein several different profile forms ~~can be~~ are selected to determine the learned sensitivity profile.
6. (Previously Presented) The method as defined in claim 5, wherein three different profile forms are selected to determine the learned sensitivity profile.
7. (Currently Amended) The method as defined in claim 1, wherein a first profile form is selected independent of ~~the a~~ radial position on the wafer.
8. (Previously Presented) The method as defined in claim 7, wherein a second profile form is selected and comprises a first and a second section, at least one of which can be varied in slope.
9. (Previously Presented) The method as defined in claim 8, wherein a third profile form is provided having a first, second and third sections of which at least one can be varied in slope.
10. (Previously Presented) The method as defined in Claim wherein at least one parameter is changed so as to adapt the sensitivity profile to the radial homogeneity function of a wafer.
11. (Currently Amended) The method as defined in claim 10, wherein the least one parameter defines ~~the a~~ radial position of a transition between two sections of the sensitivity profile differing in slope.
12. (Currently Amended) The method as defined in claim 10, wherein the sensitivity profile comprises at least three levels of settings and a parameter defines the level of the sensitivity profile.
13. (Previously Presented) The method as defined in claim 12, wherein the setting of the level can be changed by means of a slider.
14. (Currently Amended) The method as defined in claim 1, [ , ] wherein several learned sensitivity profiles are combined.
15. (Currently Amended) The method as defined in claim 1, wherein a learned sensitivity profile ~~can be~~ are replaced by a relearned sensitivity profile at any time.

16. (New) A method for determining defects in recorded wafer images, comprising :

(i) recording an image of a side of at least one reference wafer having a disc shape with a radius, the image including at least one point on the side at a distance from a center of the reference wafer less than the radius,

(ii) determining and representing on a user interface a radial distribution of values measured on the at least one reference wafer as a radial homogeneity function, and

(iii) changing a radially dependent sensitivity profile while taking into account the radial homogeneity function of the at least one reference wafer by varying at least one parameter of the sensitivity profile, a learned sensitivity profile being determined visually by comparison with the radial homogeneity function.

17. (New) A method for determining defects in recorded wafer images, comprising :

(i) recording an image of at least one reference wafer,

(ii) determining and representing on a user interface a radial distribution of color fluctuation values measured on the at least one reference wafer as a radial homogeneity function, and

(iii) changing a radially dependent sensitivity profile while taking into account the radial homogeneity function of the at least one reference wafer by varying at least one parameter of the sensitivity profile, a learned sensitivity profile being determined visually by comparison with the radial homogeneity function.